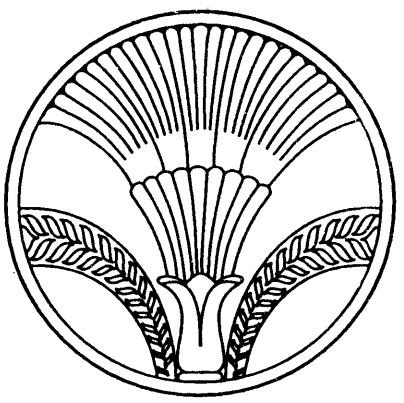

Cauliflowers

AND HOW TO GROW THEM

—:BY:—

Francis Brill,

—OF—

RIVERHEAD, L. I.

1886.

CAULIFLOWERS

AND HOW TO GROW THEM.

With plain, practical, and explicit directions in minute detail for the cultivation and management of this crop, from the sowing of the seed to the marketing of the product

—BY—

FRANCIS BRILL,

Practical Horticulturist,

AUTHOR OF "FARM-GARDENING AND SEED-GROWING"

—OF—

RIVERHEAD, LONG ISLAND,

Which is the county seat of

SUFFOLK COUNTY, N. Y.,

And the centre of the famous

LONG ISLAND CAULIFLOWER DISTRICT

From whence one hundred thousand barrels of this vegetable were shipped to New York during October and November 1885.

Published by the author

RIVERHEAD, NEW YORK,

1886.

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PREFACE.

In presenting this little work to the public, I hope and trust it may be the means of assisting my fellow gardeners and farmers, as well as private parties throughout the length and breadth of our land, to grow this most delicious vegetable, perhaps not in all places quite up to the high standard of perfection reached by the growers of eastern Long Island, a section seemingly favored with soil and climate especially adapted to its cultivation, yet to that extent which may prove pleasant to the amateur, and profitable to the professional tiller of the soil.

I invite its careful perusal and the following of its teachings, at least to a limited extent, by market-gardeners who are near cities or large villages where a market for the product can be found at remunerative prices, and also by amateurs who take pride in a first-class vegetable garden. This work will be found at variance, upon this subject, with all the standard horticultural works which have preceded it, not excepting my own work "Farm-Gardening and Seed-Growing" which was first published in 1872, and for this I have no apology to offer except to say that Cauliflower culture with us was in its infancy at that time, but it has been wonderfully developed. "We live to learn," and within the past fourteen years I have had opportunities to study this crop not enjoyed by any American writer on this subject.

I have grown many acres myself, and have been surrounded by hundreds of acres, and have experimented and had many of our growers experiment, until I think I am thoroughly acquainted with the cultivation of Cauliflower at least so far as it is practiced on Long Island.

THE AUTHOR.

CAULIFLOWERS AND HOW TO GROW THEM.

The cultivation of Cauliflower in the eastern towns of Suffolk County, N. Y., familiarly known as the east end of Long Island, was begun at Mattituck about sixteen years ago, upon a small scale, as an experiment, by one or two gardeners from the west end who were formerly engaged in growing vegetables for New York markets. The success which attended these experiments and the subsequent efforts of some of our farmers who by reason of reported great profits were induced to take up the cultivation of this crop, has been an incentive to others until at the present time an east end farm without an acre or more of Cauliflower is an exception, while in the towns of Riverhead and Southold many farmers grow from five to fifteen acres each, and in the other towns of Suffolk County the business is largely on the increase.

As a rule the crop has done well, subject of course to the ravages of insects, drouths, etc., which have at times been serious drawbacks; especially was this the case in 1884 when the crop was almost a total failure, but never before had we experienced such a protracted drouth, or such an abundance of insects of every known species, and only those who were in advance of the drouth or who had sown seed very late succeeded in getting heads for market, but the few who were thus situated received almost fabulous prices for their product. A few statistics may be interesting; serving to show the magnitude of the business with us, and demonstrating that we can give our teachings from a standpoint of experience and observation, and not theoretically as has been the case with some writers upon this subject.

MEMORANDUM.

From Traffic Department THE LONG ISLAND RAILR'D CO. Long Island City, Dec. 19,'85.	*To* Mr. F. Brill, Riverhead, L. I.

DEAR SIR:—Answering your favor of Dec. 15th. The shipments of Cauliflower, from stations between Manor and Greenport, were as follows: In October 48,980 barrels, and 126,000 pounds in bulk weight. In November 47,700 barrels, and 150,000 pounds in bulk weight. Yours truly,

CHARLES M. HEALD, *G. T. M.*

The preceding will serve to show the magnitude of the Cauliflower industry of eastern Long Island. The statement shows that during only two months—October and November 1885—96,680 barrels for market, besides 276,000 pounds in bulk to pickling factories, were shipped from stations on the main line of the L. I. R. R. and does not include shipments from stations on the south side branch nor from stations west of Manor on the main line, which with shipments by steamboat from the extreme east end would make an aggregate of fully 120,000 barrels sent to market from the Cauliflower district in the short space of two months, or perhaps 125,000 barrels during the entire season of 1885.

While this immediate section seems to be the only one east of the Rocky mountains where this delicious vegetable is grown to any great extent, yet I have no doubt there are many other localities where it will succeed fully as well, and I candidly believe that with proper culture and care it may be grown in many places, better of course in some localities than in others, for we find that even such common vegetables as Cabbage, Potatoes, etc., are materially influenced by various conditions of soil, climate, etc., and succeed only in proportion to the conditions and opportunities afforded, either existing naturally or artificially applied.

In all my writings I have avoided so far as possible allusions to the possible or probable profits to be realized from any crop, as I know that all such statements are calculated to deceive, while they cannot by any possibility be given with any degree of accuracy, for the very reason that the fluctuations in the prices of garden crops are more marked than in any other direction, and with Cauliflower more so than any other vegetable. Prices this year have ranged from ten dollars early in the season down to one dollar and twenty-five cents a barrel during the glut when large quantities were sold to picklers at one cent per pound for clean trimmed clear curd or flower. As a rule early and very late Cauliflowers bring the best prices.

SOIL AND ITS PREPARATION.

The season of 1885 has demonstrated, with us at least, that, all other conditions being favorable, Cauliflower can be

grown on any and every kind of soil, but observation through a series of years show that as a rule a deep loam is the best and that in which sand rather than clay predominates is superior, while that with gravelly subsoil should be avoided. Land which has been seeded to grass for a number of years, and broken for corn one year previous is well suited for Cauliflower, although some of the very best crops in this section have been grown on inverted sod. By the latter method the ground should be plowed early in the Spring and at intervals thoroughly stirred by cultivator or cutting harrow. Where the sod has been broken a year in advance the land should be plowed in the Fall and again in the Spring, at least once before planting, and twice for late planting; always plowing as deeply as the character and previous condition of the soil will admit of and harrowing thoroughly. By all means avoid land which has been recently used for growing Cabbage, Turnips, Kale or anything of their nature. About the time the plants are ready to transplant, the land should have a thorough and final harrowing, and be rolled or back-harrowed to break all lumps and make the surface even, and marked in checkers whatever distance it may seem advisable to set the plants. I do not think it advisable under any consideration to plant closer than 2 1-2 by 3 feet, while 3 feet each way is still better, and this only for the compact growing or narrow leaved sorts, allowing 3 by 4 feet, or at least 3 1-2 feet each way for the spreading or broad leaved varieties. Too close planting has a tendency to cause the plants to mildew and produce small heads, and causes much inconvenience when the time arrives to pass between the rows in tying up, cutting, etc.

FERTILIZING. Experience has taught us that stable manure applied at the time of planting, except for earliest spring crop, is often injurious and I advise applying stable manure plentifully to the crop of the preceding year, or otherwise let it be turned under at the fall plowing, or if well rotted, at the first Spring plowing, and at the time of planting apply commercial fertilizers or as they are sometimes called patent manures, using whatever brand you may have the most confidence in. The competition between manufacturers has become so great that all are compelled to be at least partially honest,

and several prepare a special fertilizer for Cauliflower and Cabbage which works admirably. Our best growers all use German Potash Salts or Kainit about 13 per cent. actual potash, one ton to the acre; or Sulphate of Potash equal to 27 per cent. actual potash; or Muriate of Potash equal to 45 per cent. actual potash about one half a ton to the acre. The relative cost per ton of these is as $16.00 for Kainit, $38.00 for Sulphate and $45.00 for Muriate—these are present prices, but the market is subject to fluctuations. These should be evenly applied broadcast and turned under at the Spring plowing, and from one half a ton to one ton of fertilizer to the acre should be applied in the same manner on the surface and harrowed in at the last preparation of the soil. Of late many have been using fish guano, which is the scrap or flesh and bone refuse from the menhaden oil rendering establishments, in connection with potash salts with excellent results; in fact Captain Edward Hawkins of Jamesport, one of our most successful growers uses notning else, applying one ton of each to the acre. Very good Cauliflower has been grown by opening furrows, placing the fertilizer therein and covering so as to form ridges; but I advise broadcast manuring and flat cultivation for this crop, as I am fully convinced that one acre in proper shape and condition will pay much better than two acres only half fertilized.

Pure fine ground bone one ton to the acre plowed under will be found beneficial, especially so in carrying the plants out at the time of heading, but is scarcely stimulating enough for the early requirements of the plants. Well rotted stable manure may be used to advantage freshly applied and plowed under for early Spring planting of cold-frame or hot-bed plants which are expected to mature before extremely hot or dry weather, but it has no special advantage except to warm up the soil.

SOWING SEED AND GROWING PLANTS.

For early Cauliflower the seed may be sown about the 10th of September, and when the plants have formed the second leaves and become large enough to handle conveniently, they must be transplanted into cold-frames which should be built in a sheltered position, and during the winter the plants should

be protected against severe freezing; or the seed may be sown in February in a hot-bed and the plants when about two inches high pricked out into a cooler bed or potted and placed in a sheltered cold frame to harden them before setting in the open ground, which can ordinarily be done early in April in the vicinity of New York, and of course these dates as well as all which have been or may be given in this work must be amended or modified according to locality, In the south less protection will be required, and below the frost-line they may be grown in open fields during the winter as readily as cabbages are now grown as far north as Norfolk, Va., and Baltimore, Md. The best plan of growing the plants early is to have a small greenhouse such as gardeners use for forcing Lettuce, &c., wherein the seed may be sown in February, and in due time the plants potted in half-pint pots and forced or retarded as circumstanees may require; but it is best to give them a moderate and even, *healthy* growth, having them strong and vigorous but *hardy* at the time of out-door planting, when the pots may be inverted and the plant with ball of earth about the roots, set out without checking. This last point is very essential, and great care must be exercised in transplanting early plants for if growth is materially checked or the plants stunted they will form buttons—that is very small premature heads—and be of no further use. In this locality efforts to grow Cauliflower very early have not been attended with good results, partly because our people have had but little experienee with glass, but mainly by reason of the ravages of the root maggot, and in many cases by reason of using seed of varieties entirely unsuited for that purpose, matters which are treated upon in proper place. The great crop with us is during the months of October and November, for which seed is sown from May 15 to June 25, and the plants set from the middle of June to the last of August, according to the kind, which is further explained under the head of "Varieties."

Occasionally, by reason of drouth and frequently by reason of the ravages of insects great difficulty has been experienced in growing plants in the Spring and early Summer, which seldom occurs in the Fall, at which time, however, the same precautions may be used. Time was when we could circum-

vent the flea and louse on young plants by the use of lime, tobacco, ashes, soot, &c., but of late years they seem to have been so very abundant, and so materially aided in their work of destruction by the black grub below and the green grub above ground, that many complete failures have occurred in endeavors to grow plants. To avoid this I recommend that the ground intended for plants be plowed or spaded in the Fall, and if stable manure is to be used, let it be well rotted and turned under at this time, and again work the soil early in the Spring, at this time turning under a good dressing of potash salts; keep the ground free from weeds by occasional stirring until the time for sowing the seed, then lay out a bed six feet wide and as long as you please; make the surface smooth, and enclose it with common boards ten or twelve inches in width set edgewise perpendicular one-half their width under ground and held in place by stakes driven at the joints and centres. Within this frame, beginning at either end, dig and thoroughly pulverize the soil by means of a spading fork, potato fork, or similar implement, watching closely for any grub worms which may not have been eradicated by the previous workings, and which we now propose to keep out by means of the partially sunken boards.

Fertilizers may at this time be applied and forked under or raked in, using judgment as to method and quantity which must be determined by the previous condition of the soil and the strength of the material used, remembering that it is not well to have any chemicals in too close proximity to the tender rootlets of the young plants, and while poor soil is no place in which to grow healthy plants, yet they should not be over stimulated, but the ground must be in proper condition to keep up a vigorous and healthy growth. Let this digging be done in the latter part of the afternoon when the sun has spent its force and the soil will not dry out too quickly; rake the bed as you go and sow the seed while the surface soil is fresh and moist, using a ten inch board as long as your bed is wide which place five or six inches from the end or head of the frame, crosswise, and with a blunt stick, say three-fourths of an inch in diameter, draw a mark not more than one-half an inch deep along each edge of the board; sow the seed thinly in these

marks, using the thumb and finger to guide it; then turning the board twice, sow two more rows and so proceed until you have sown several rows, say 12 to 20, when they must be covered, using the back of a spade drawing it with some *pressure* half-way from each side of the bed. A very important part of this operation which must not be overlooked *is to get the seed in and covered while the ground is fresh and damp;* therefore *complete* the work in sections. At the distance given the hoe can be used and the soil stirred between the rows which is quite essential to a proper growth of the plants as well as necessary to keep down the weeds.

The sowing completed, the bed may be covered with old bags or cloths to retain the moisture, which, however, must be removed upon the first signs of the seed germinating; but what is better still, a shade of muslin can be used, supported by the upper edges of the frame and narrow strips laid across, which can remain until the plants are well above ground when it should be removed, the plants sprinkled with tobacco dust, air slaked lime, ashes or common plaster, and a covering of mosquito netting be substituted for the muslin, which will admit light, air and sunshine, yet be a partial shade, and will help to protect the plants from insects. This cover may be removed during rainy weather, and if you please every night to give the plants the benefit of the dew.

I have decided objections to artificial watering of seed beds, especially when the seed is first sown or in the early stages of growth of the plants, and this may generally be avoided by following the directions just given; but when circumstances may seem to demand otherwise, let the bed be prepared and in the afternoon thoroughly saturated and toward evening the seed may be sown and covered as above described, but never water the bed after the seed has been sown until the plants are well up, for this has a tendency to pack the surface and cause it to bake and prevent proper germinating of the seed. After the plants are fairly above ground, light waterings at evening may be given, but must be avoided if possible.

I have not given these precautions for sowing seed in September for wintering over, for the reason that at that season of the year we are comparatively free from insects and drouths.

In fact these precautions may not be used in Spring and Summer, and seed may be sown in open ground without the protection of frame and coverings, &c., but the risk is too great, and as the seed is very expensive and good plants cannot always be bought, the cost of time, labor and painstaking should be only a secondary consideration, and following these directions and precautions will be found profitable in growing not only Cauliflower but Cabbage plants.

PLANTING AND CULTIVATION. I have already given the distances at which Cauliflower should be planted and advised marking the ground both ways in checkers, in the corners or intersections of which the plants are to be set or if you please the rows may be marked one way and the plants set in the rows by measure, using a marked pole on every seventh row to get them exact' and setting the plants on the other rows directly opposite those in the guide row already planted. Proper transplanting is of great importance, especially in Summer, when drouth is apt to prevail. Plants should be set, if possible, in damp weather, but as this is one thing which we cannot govern, we sometimes have to water and experience has demonstrated that plants can be set even in extremely dry weather with success.

The ground having been prepared and marked in checkers or rows if no rain appears when the plants are large enough to transplant, by means of a heavy pointed stick, long enough to admit of the operator walking upright, punch a hole at each intersection or where it is designed to set the plant; the soil being dry this will leave simply an indenture sufficient to receive water, say one-half a pint or more, enough to wet the ground to a depth of three or four inches. Water can be carted to the field in barrels, and should be applied in the afternoon or toward evening and the plants set as soon as the water has settled away, but not while the ground is still muddy. Transplanting should be done with great care, being very particular to open the holes with the dibble sufficiently large to admit the roots of the plants without doubling up or cramping and to press the earth *firmly about the roots* and not about the stalk above. Planted in this way and receiving rain within a reasonable time, I have known many fields to surpass others which were planted in moist weather and followed by drought.

Care must be taken to have an abundance of fibrous roots attached to the plants which can be accomplished by thoroughly saturating the plant bed with water or by lifting the plants with a spading fork, and it will be advisable to "puddle" the roots in mud of a proper consistency to stick well to the fibers. Use the cultivator and hoe as soon as possible after planting and continue to use them often and thoroughly, for upon proper tillage of the soil much depends, and here it will be found advantageous to have the plants equidistant that the cultivator may be used both ways.

After Treatment and Marketing. Besides the cultivating and hoeing there is but little that can be done until the heads begin to form, but it will be well to watch the insects closely and in case of drought and the plants show signs of becoming checked, watering may be resorted to and I would advise applying at this time guano or something of the same nature in weak solution. I am fully convinced from my own experience that water bountifully supplied to the roots of the plants during a drouth will repay the labor. In some parts of Europe Cauliflower is grown in low mucky ground, which is thrown up in wide ridges on which the plants are set, and the water from the ditches is daily applied to the growing plants and the result is Cauliflower in perfection. When the heads have commenced to form and become large enough to be in the least exposed to the sun, they must be covered, which can be done by drawing the outer leaves together and fastening them at the top by means of wooden pegs or strings, or a few wisps of rye straw; the last named is used mostly by our growers. This operation must be performed in such a manner as not to cramp the growing head and at the same time form a perfect roof or cover over it to exclude the sun and light, that the head, or flower as it is often called, may be perfectly white when ready for market. When once they have begun to head they must be attended to every day or two and kept regularly tied up. Just when they will be ready for market can only be determined by general appearance. In moist and warm weather they develope very rapidly, while cool dry weather retards their growth. Experience will soon enable a grower to judge of the condition of the heads without much trouble, but the

novice must examine them by carefully opening the leaves on the shady side, and so long as growth is apparent and the curd remains solid withont disposition to burst or become spongy they may remain, but it will be better to cut them full young rather than take chances of having them spoiled. They should be cut below the leaves, using a large knife or heavy instrument, and removed to the barn or packing shed where the leaves should be trimmed down almost to a level of the head, and if they are too abundant, some of the lower ones with a portion of the remaining stalk should be cut away, only enough leaves being required to protect the head from injury, and if the stock is very fine it will pay to use white tissue or tea paper to cover the head, tucking the edges under the leaves which will preclude the possibility of staining. The usual method of shipping to market is in barrels, in which the heads are carefully and snugly packed, and covered with a coarse cloth nailed over the top, but I think a strong box or crate, latticed, of about one barrel capacity is far preferable. It often happens that our growers have many Cauliflowers in the fields at the approach of winter. These are taken up root and all, with as much earth as will stick, conveyed to cellars and pits and stored as thick as they can stand, where they continue to grow, and shipments even as late as the middle of January are not uncommon.

VARIETIES. The varieties are not numerous; one who wrote many years since declared there were but two—early and late—and scarcely any difference between them.

Most writers however admit a marked distinction in three or four sorts. Fearing Burr in his "Vegetables of America" describes sixteen varieties and sub-varieties but notes that "varieties proper" are comparatively few in number; the distinctions, in many instances, being quite unimportant. With a wide field of observation and extended experiments not only personally but by our best growers, I find a very marked difference in the color and form of the foliage, habit of growth solidity of the head, time required to mature, etc., etc. The "Erfurts" are easily distinguished by their clean cut leaves of a light or pea green color and produce the finest, most compact, whitest and heaviest heads. The "Erfurt Large White Early"

is the lowest grade of this type, the seed is cheap, and, although succeeding admirably at times cannot be depended on, apt to grow with small fine leaves through the heads. "Erfurt Extra Dwarf Earliest" is considered the very finest grade, the seed is very expensive, and produces magnificent heads as white as snow and cuts almost to a plant. The "Small Leaved Erfurt" differs from the preceding in that it has very narrow and pointed leaves which grow perfectly upright, thus adapting it for close cultivation or for forcing; it grows rapidly which adapts it for Spring cultivation, and for fall crop may be sown later than any other, and with our usual open Falls may be sown here as late as July 1st. The two last named are favorites and are the only kinds suited for Spring cultivation, while at the same time they are superior for growing in the Fall, and our farmers are fast realizing the fact that the American grown Erfurt seed is superior to all imported stocks.

"Early Snowball" sent out by Peter Henderson & Co., is a very fine strain of the Erfurt type and is certainly one of the very best, let it be called by what name it may. The "Algiers" is a standard sort with our farmers for Fall, but of no earthly use for Spring planting; seed of this sort should be sown from May 15th to June 1st, and as the plants grow exceedingly large and tall they require much room; foliage large, long and spreading, dark green with silvery surface; a very reliable sort and produces large and heavy heads, but not as solid, or as fine in quality as the Erfurts.

The "Early Paris" and "Half Early Paris" were at one time quite popular with our growers but are now superseded by the Erfurts and Algiers; they form good sized heads, but not particularly solid, and burst very quickly if not cut when matured. Seed of these sorts should be sown early in June. The Early Paris under very favorable conditions has done well in the Spring. Every known sort has been tested by our growers, and I have had in one field eighty-six samples, comprising every known variety and sub-variety often repeated, grown from seed procured from every possible source, and with the exception of one or two sorts which have done well under peculiarly favorable conditions and circumstances, all have been positively condemned except those above named.

INSECTS. The first the Cauliflower has to contend with is the "Jack" or cabbage flea: then grub worms which often ruin a bed of plants in a few nights by running along the rows under ground or on the surface and nipping off the young and tender stalks; then the aphis or blue louse. All these may be guarded against in a measure by following directions given under the head of "Sowing the seed and growing the plants," but what we shall do with the flea, louse, cut worm and green worm after the plants are set in the field I cannot say. My experience has been that it pays to sprinkle the plants soon after they are set and at short intervals with tobacco, lime, ashes or plaster as a *preventive* against fleas and lice, even when there may not be indications of a friendly visit from them. Black grubs or cut worms can only be conquered by persistent scratching, going over the plants every morning *early*, and where a leaf is drawn into the ground dig the "varmint" out and kill him. The green grubs or cabbage worms paid their respects to us within a very few years; they have not been plentiful this season, so let us hope they soon will have fulfilled their mission and be known no more. Many remedies are advertised and many have been tried, but none are infallible, except rank poisons which dare not be used, especially near the time of heading, but no doubt something will be discovered that will be *sure death* to insects and harmless to mankind and domestic animals. The ravages of the root maggot have made the growing of early Cauliflower, and even early Cabbages in many sections, almost an impossibility, but there is a remedy. When the maggot has attacked the roots of the plants, which may be known by a tendency of the leaves to wilt and droop in the heat of the day, very much the same as when affected by club root, dissolve Muriate of Potash (analyzing 45 per cent. actual potash) in water in the proportion of one tablespoonful to the gallon, or double the quantity of Kainit or common potash salts (13 per cent. actual potash). Apply this *directly* to the roots, about one gill to each and every plant whether seemingly affected or not, for the maggot will have done much harm before the plant will show it, repeating as occasion may seem to require, and in sections where these maggots have been prevalent it will be well to make a solution of one half the above strength, and when the plants are nicely started apply in the same manner as a *preventive*. Care and judgment must be used not to overdo the matter, thereby killing the plants as well as the maggots; experiment a little at first.

These directions are equally applicable to the Cabbage crop.

SEED. Seedsmen and gardeners have been obliged to depend upon Europe for their supplies, our American growers having met with but little success in the production of the seed. Within a few years a friend of mine, a market gardener, has been successful in growing seed from the finest grades of Erfurts. So far he has been able to grow for me all that I require in my wholesale trade, and with new discoveries made from year to year, and others catching on to the business I have no doubt the time will come when American seed will supersede the foreign grown, and be sold almost exclusively by our seedsmen. In the hands of this man by seeding only the extra heads even the finest strains have been materially improved and our growers are fast adapting the American grown seed, and in fact some will not have any other, and I am happy to say that the finest grades can be grown and sold in this country below first cost in Europe.

COOKING. Perchance some may be induced to grow Cauliflowers for their own use and having grown them, the mistress or the cook may not understand cooking them, therefore a few hints here may not be amiss.

Use a porcelain lined, or similarly guarded pot in which to boil them, as one of plain iron will give them a dark color.

Put a liberal allowance of salt in the water which must be *thoroughly boiling* before the Cauliflower is placed therein. Boil it rapidly about fifteen minutes and not over twenty minutes for the largest heads; there is more danger of boiling too much than too little; a little sweet milk in the water has a tendency to keep the heads white. Should be served with drawn butter or may be eaten with plain butter and vinegar. To pickle them break the head apart as small as you please, place in boiling *salted* water for three minutes, remove from the water and place in cold cider vinegar, with spices to suit the taste.

CONCLUSION. When I commenced this work I had no idea it would assume the proportions it has, and I have curtailed wherever I could and still make my meaning plain, for my aim has been to get up a treatise which could be published and sold at a price within the reach of all, and yet contain positive and general information.

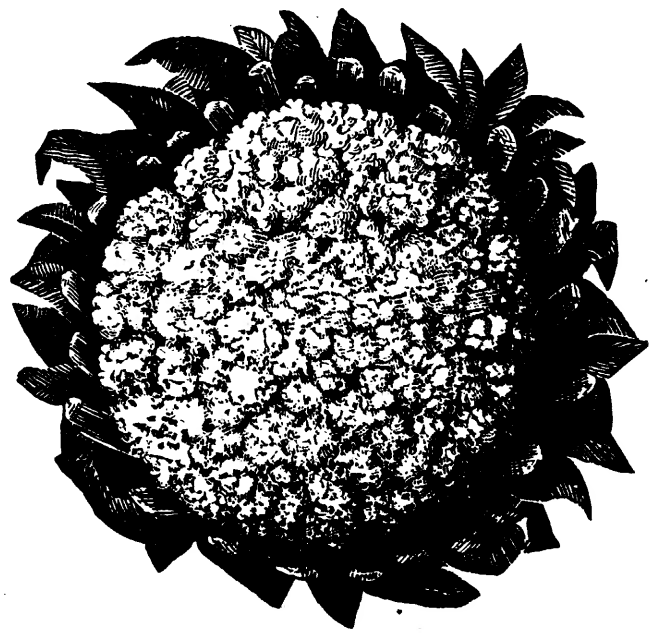
There are many points in this little work which may be applied in the cultivation of Cabbages, which may be grown by exactly the same method as Cauliflower, requiring the same treatment, fertilizing, &c., except that stable manure may be

used on the former with less danger of blighting. They may, however, be planted much closer, $2\frac{1}{2}$x$1\frac{1}{2}$ ft. for early, and 3x2 ft. for late sorts. They are subject to the same common enemies from beginning to end and for which the same remedies may be applied. For full and explicit directions and instructions respecting "Transplanting," "Insects," "Cold-frames," "Hot-beds," "Tools," "Seed-growing," and an abundance of practical, hence valuable information for amateurs, market-gardeners, seed-growers and farmers, see my book entitled "Farm-Gardening and Seed-Growing," containing 150 pages of closely printed matter, published and sold by the Orange Judd Co., 751 Broadway, N. Y., also on sale by most seedsmen and all dealers in horticultural books at $1.00 per copy or I will mail it post-paid, to any address upon receipt of the price.

I shall always be glad to hear from those who have done me the honor to follow my teachings and always be ready to make more comprehensive what may not seem plain enough and I trust all who may peruse either of my works may meet with most abundant success.

A table showing the number of plants required to an acre at given distances for Cauliflower or Cabbage planting:

feet	inches		feet	inches	plants
2	6	by	1	6	11,616
3	0	by	2	0	7,260
3	0	by	3	0	4,840
3	6	by	3	6	3,556
3	6	by	3	0	4,148
4	0	by	3	6	3,111
4	0	by	4	0	2,722



AMERICAN ERFURT.